

# Air Travel

by  
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Have you ever wished you could fly like a bird? People have always been interested in things that fly. Artist and inventor Leonardo da Vinci drew pictures of flying machines in the 1500s, but the means to build them did not exist.

In Paris in 1783, Frenchman Joseph Montgolfier built the first hot-air balloon that could carry people suspended in a basket. He and his brother were the first passengers. Later, other people flew in balloons, and hot-air ballooning is still a hobby enjoyed by many people today.

Sir George Cayley was determined to solve the riddle of human flight. In the late 1700s, he worked in a home laboratory where he studied aerodynamics and mechanics. After experimenting with materials and designs, he flew in his first model glider in 1804. It was as big as an airplane but it had no engine. Other inventors improved on his glider, and today pilots fly them on fast, exciting rides.

## The World's First Airplane

Hot-air balloons and gliders fascinated Orville and Wilbur Wright when they were children. They also liked to make toy helicopters. As men, they built bicycles for a living, but creating flying machines was their hobby. They attached propellers and an engine to a glider and called it a flyer. In 1903, Orville flew their flyer for twelve seconds in the world's first airplane flight.

Many early airplanes had two sets of wings that let them make sharp turns and rolls. In World War I (1914–1918), pilots engaged in shooting battles called biplane maneuvers, or dogfights. Such dogfights marked the beginning of air fighting.

Also in the early 1900s, engineer Igor Sikorsky tried to build a helicopter. When his first attempts failed, he turned to working on airplane designs, but his interest in helicopters remained. In 1939, he built the first American helicopter. It could fly straight up or down, forward or backward, or side to side. It also could stand still in the air. Today, helicopters have many uses in times of both peace and war.



## Airliners

In the early 1930s, many Americans began flying in airplanes. Planes were getting bigger and they could fly faster and farther. Seaplanes could even land on water. Passenger planes took on sleek designs similar to today's airliners.

The Boeing 247, launched in 1933, was the first modern airliner. After takeoff, its wheels folded up into the wings, letting it slip easily through the air.

Another of America's first modern planes was the DC-3. It could fly 180 miles per hour and carry twenty-one people.

Rotary engines and propellers powered planes until a German company produced jet engines. In jet planes, a fan sucks air into the front of the engine. Burning engine fuel releases compressed gases under great pressure. These gases exit through the engine's back, thrusting the plane forward.

Jet engines allowed planes to go even faster and farther. There are many kinds of jet planes, and the 747-400 and the 777 are two of the best known. In 1991, newly developed F-117A stealth fighter-bombers helped the United States and its allies win the Persian Gulf War. These planes were built with curved or angular surfaces made of special materials that reduced radar reflection and allowed the planes to approach their targets without detection.

## Supersonic Jets

In time, engineers developed supersonic jet planes that traveled faster than sound. The Concorde, a supersonic jet, is today's fastest commercial plane. It was unveiled in 1967 and today it is the world's only supersonic passenger jet. Unfortunately, a crash in 2000 grounded all Concorde until the investigation into the cause is completed.

### Record-Setting Flights

In a daring solo flight in 1927, Charles Lindbergh flew across the Atlantic Ocean, from New York to a hero's welcome in Paris. His plane, *The Spirit of St. Louis*, is on display in Washington, D.C.'s Smithsonian Institution.

Five years after Lindbergh's historic flight, Amelia Earhart was the first woman to fly alone across the Atlantic. While attempting to circle the globe in 1937, Earhart's plane was lost. Her disappearance remains a mystery.

### **The Future of Air Transportation**

In 1957, the Soviet Union launched the first space satellite, Sputnik, and the race to explore space began. In 1961, Alan Shepard was the first American launched into space. A year later, John Glenn was the first American to orbit the Earth. Seven years after that, astronauts Neil Armstrong and Edwin Aldrin Jr., walked on the moon.

Although astronauts now live aboard space stations that are orbiting the Earth, it will probably be years before average citizens can travel into outer space. Nevertheless, if you would like to visit a distant planet and see an asteroid up close, someday it may be possible.

People working in the land, sea, and air transportation fields often conduct business and measure success by using things like concrete and steel. Yet transportation is really about something more vital: people. No matter how complex our various means of transportation become, the final goal is getting people and things we produce quickly and safely from here to there.